

## 299-W10-169 (A7252) Log Data Report

### Borehole Information:

<b>Borehole:</b>			299-W10-169 (A7252)		<b>Site:</b>		Near T Farm	
<b>Coordinates (WA St Plane)</b>		<b>GWL<sup>1</sup> (ft):</b>		None		<b>GWL Date:</b>		02/20/08
<b>North (m)</b>	<b>East (m)</b>	<b>Drill Date</b>	<b>TOC Elevation</b>	<b>Total Depth (ft)</b>	<b>Type</b>			
Not available	Not available	Not available	Not available	Not available	Unknown			

### Casing Information:

Casing Type	Stickup (ft)	Outer Diameter (in.)	Inside Diameter (in.)	Thickness (in.)	Top (ft)	Bottom (ft)
Welded steel	3.15	6 3/4	6	3/8	3.15	124

### Borehole Notes:

The logging engineer measured the casing diameter with a caliper and steel tape. This borehole was recently discovered and borehole information is not available. The purpose of acquiring log data is to provide information for decommissioning of the borehole. All log data are referenced to the top of casing.

### Logging Equipment Information:

<b>Logging System:</b>	Gamma 4N		<b>Type:</b>	SGLS HpGe (60%)
<b>Effective Calibration Date:</b>	09/20/07	<b>Calibration Reference:</b>	HGLP-CC-022, Rev. 1	
		<b>Logging Procedure:</b>	HGLP-MAN-002, Rev. 0	

<b>Logging System:</b>	Gamma 4H		<b>Type:</b>	NMLS
<b>Effective Calibration Date:</b>	11/06/07	<b>Calibration Reference:</b>	HGLP-CC-021	
		<b>Logging Procedure:</b>	HGLP-MAN-002, Rev. 0	

### Spectral Gamma Logging System (SGLS) Log Run Information:

Log Run	2	3 Repeat		
Date	02/21/08	02/21/08		
Logging Engineer	Spatz	Spatz		
Start Depth (ft)	3.0	85.0		
Finish Depth (ft)	124.0	99.0		
Count Time (sec)	100	100		
Live/Real	R	R		
Shield (Y/N)	N	N		
MSA Interval (ft)	1.0	1.0		
Pre-Verification	DNA01CAB	DNA01CAB		
Start File	DNA01000	DNA01122		
Finish File	DNA01121	DNA01136		
Post-Verification	DNA01CAA	DNA01CAA		
Depth Return Error (in.)	N/A	- 2.0		
Comments	No fine gain adjustment	No fine gain adjustment		

**Neutron Moisture Logging System (NMLS) Log Run Information:**

Log Run	1	4	5 Repeat	
Date	02/20/08	02/21/08	02/21/08	
Logging Engineer	Spatz	Spatz	Spatz	
Start Depth (ft)	3.0	109.0	85.0	
Finish Depth (ft)	110.0	124.25	99.0	
Count Time (sec)	15	15	15	
Live/Real	R	R	R	
Shield (Y/N)	N	N	N	
MSA Interval (ft)	0.25	0.25	0.25	
Pre-Verification	DHB42CAB	DHB52CAB	DHB52CAB	
Start File	DHB42000	DHB52000	DHB52062	
Finish File	DHB42428	DHB52061	DHB52118	
Post-Verification	DHB42CAA	DHB52CAA	DHB52CAA	
Depth Return Error (in.)	- 0.5	N/A	- 2.0	
Comments	None	None	None	

**Logging Operation Notes:**

Logging was conducted with a centralizer on each sonde. All measurements are referenced to top of casing.

**Analysis Notes:**

<b>Analyst:</b>	Henwood	<b>Date:</b>	06/03/08	<b>Reference:</b>	GJO-HGLP 1.6.3, Rev. 0
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Pre- and post-run verifications for the logging system were performed before and after each day's data acquisition. The acceptance criteria were met.

A casing correction for a 3/8-in. thick casing was applied to the SGLS data. NMLS data were corrected to percent volumetric moisture using calibration for a 6-in. ID casing.

SGLS spectra were processed in batch mode using APTEC SUPERVISOR to identify individual energy peaks and determine count rates. Concentrations were calculated with EXCEL worksheet templates identified as G4NSept07.xls using efficiency functions and corrections for casing, dead time, and water as determined from annual calibrations.

**Results and Interpretations:**

Cs-137 was detected from 3 to 5 ft and from 10 to 12 ft. The maximum Cs-137 concentration was measured at approximately 0.5 pCi/g at 11 ft. One other detection of Cs-137 at 109 ft near the MDL was determined to be a statistical fluctuation and are not a valid full energy peak.

Repeat sections acquired for the logging system indicate good repeatability.

**List of Log Plots:**

Depth Reference is top of casing

Manmade Radionuclides

Natural Gamma Logs

Combination Plot

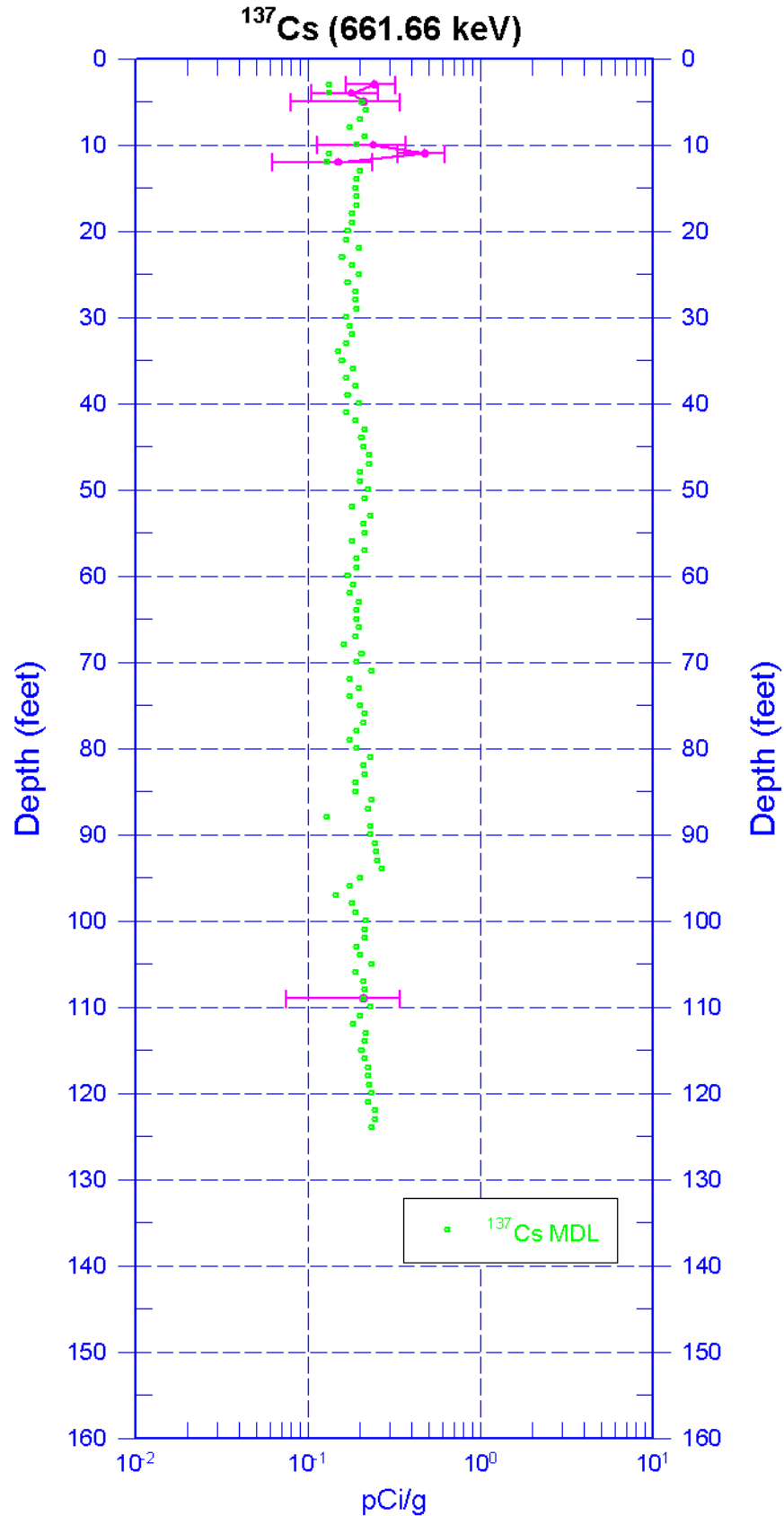
Total Gamma, Dead Time, & Moisture

Repeat Section of Natural Gamma Logs

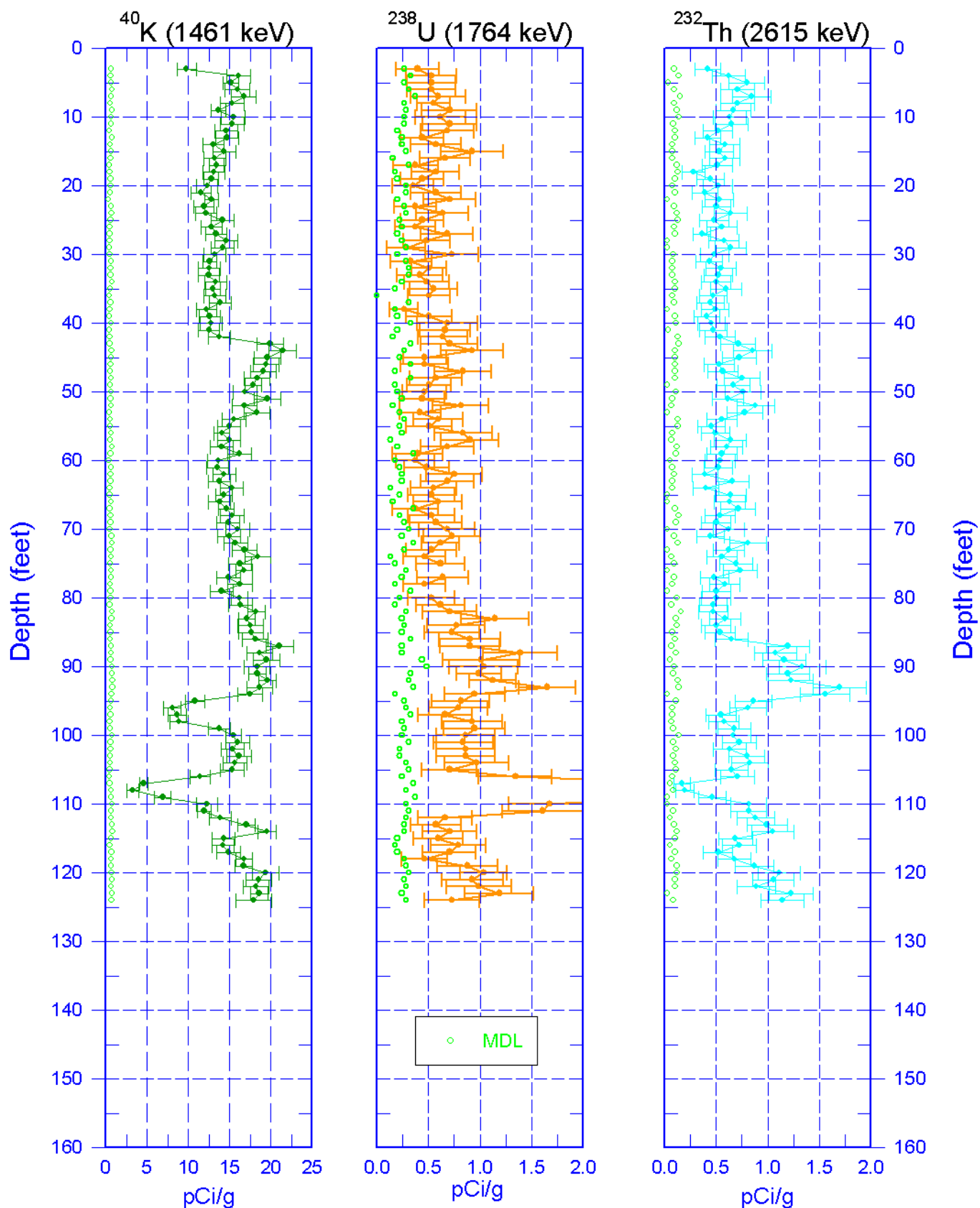
Repeat of Moisture

<sup>1</sup> GWL – groundwater level

# 299-W10-169 (A7252) Manmade Radionuclides

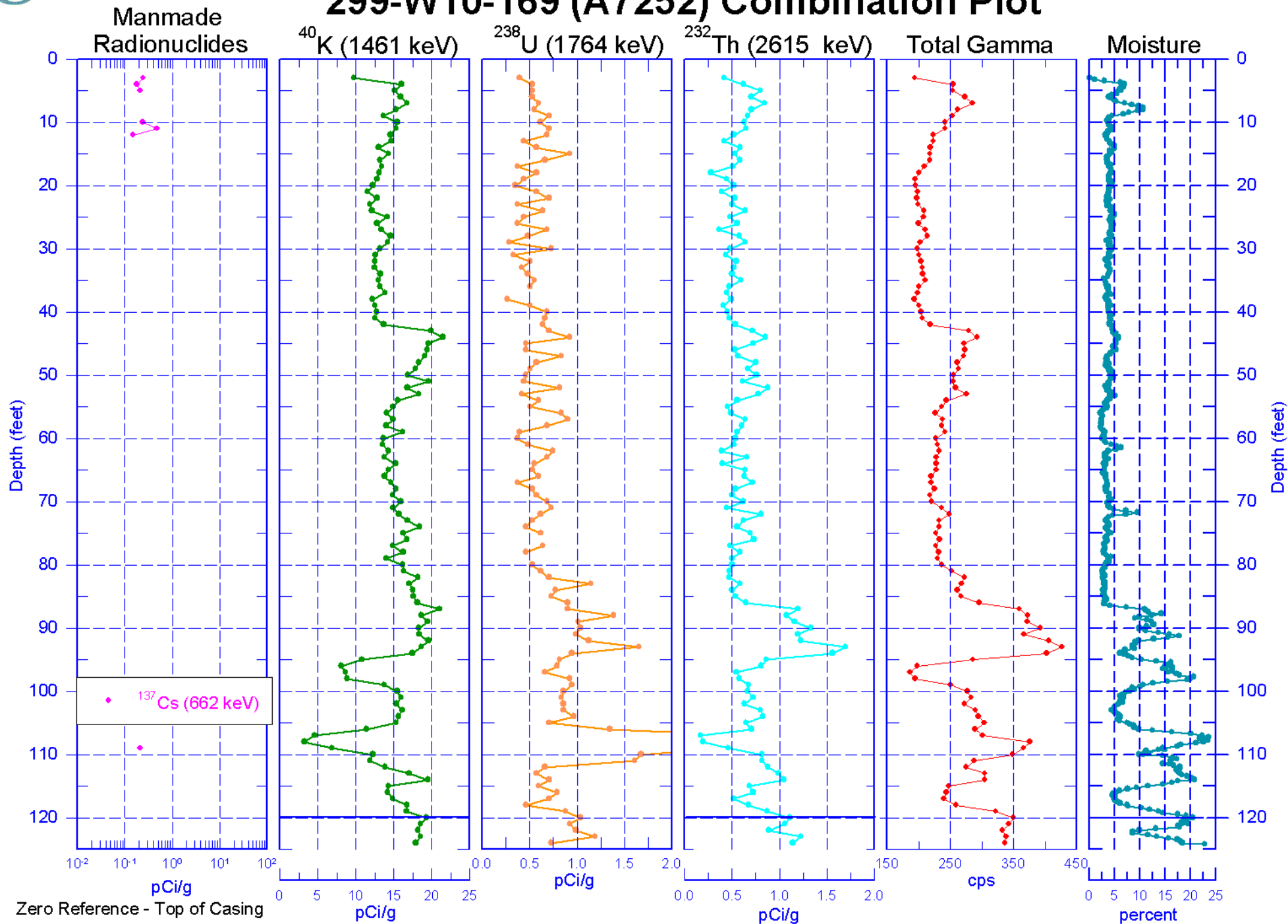


# 299-W10-169 (A7252) Natural Gamma Logs

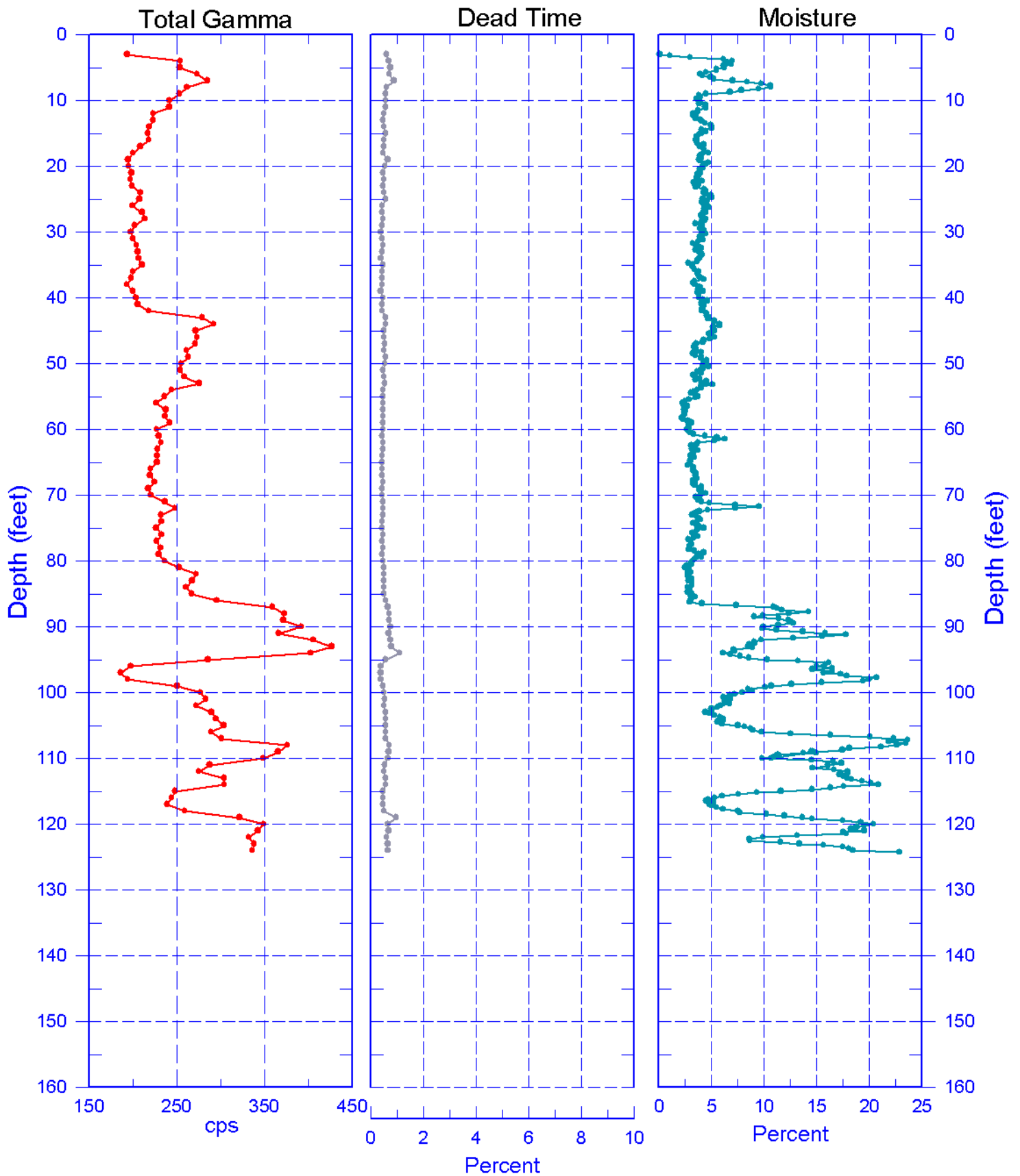


Zero Reference = Top of Casing

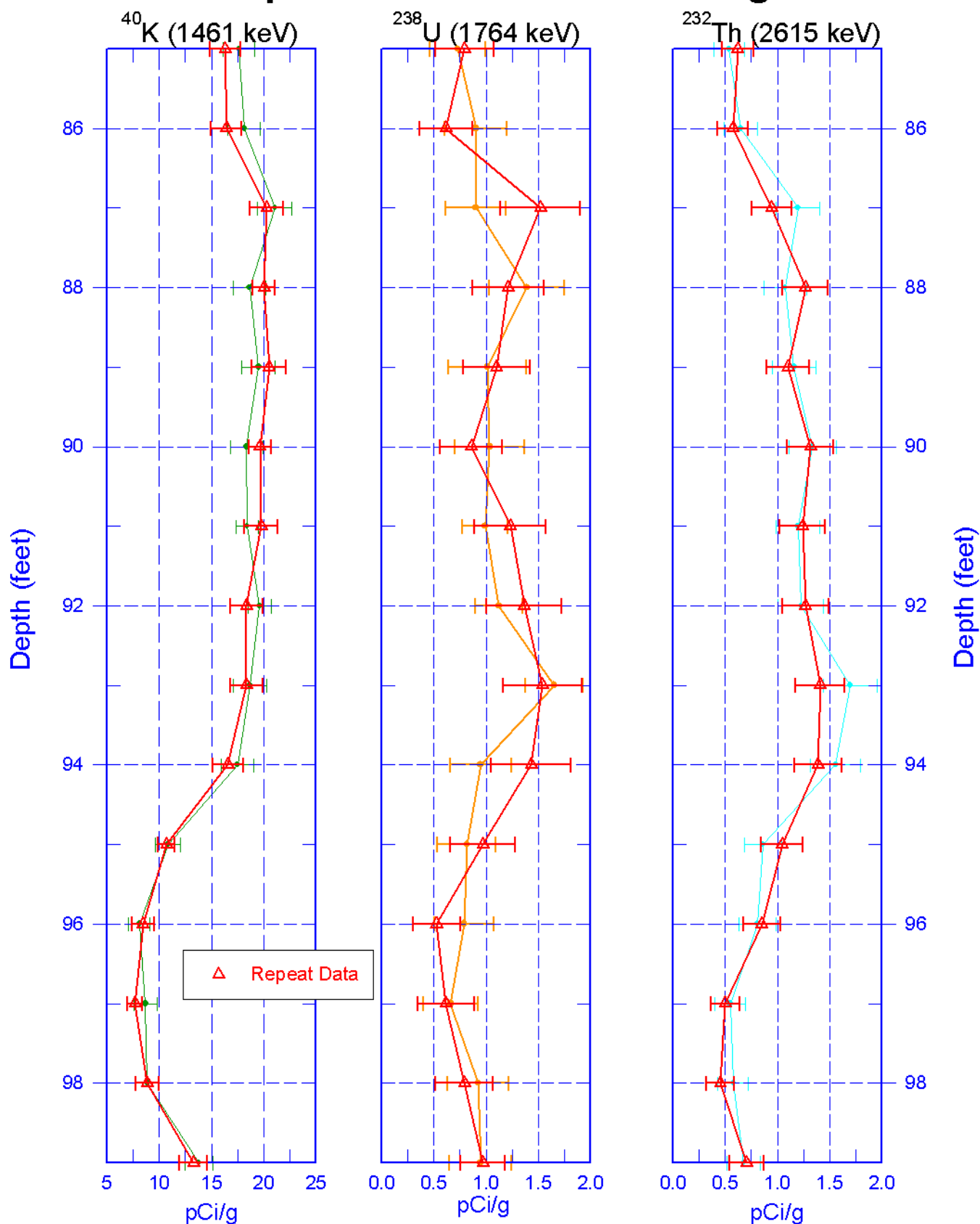
# 299-W10-169 (A7252) Combination Plot



**Total Gamma, Dead Time & Moisture**



# Repeat of Natural Gamma Logs



Zero Reference = Top of Casing

299-W10-169 (A7252)

## Repeat of Moisture

